



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

A BRYOLOGIST'S GLIMPSE INTO GEOLOGICAL HISTORY.

JOHN M. HOLZINGER.

That even the most modest efforts and observations may contribute important data to the illumination of profoundly scientific problems, is shown in the following letter from Dr. Emilio Levier, a physician in Florence, Italy, and an enthusiastic bryologist. Dr. Levier makes so vivid a statement of the case and has so amiably permitted its use, that I feel justified in giving it in full.

"Extraordinarily interesting to me was your discovery of the identity of the Cis-Caucasian *Leskea crassiretis* with the North American *Fabroleskea Austini* (See BRYOLOGIST, Sept. 1903). If I had known of this earlier I could have communicated to you two similar cases of widely separate localities which are very suggestive not only from the standpoint of phyto-geography but also of geological history.

"The first case concerns, to be sure, not a moss, but a parasitic fungus which I collected in 1890, first at Trapezunt, later in western Trans-Caucasia (Svanetia) on *Rhododendron flavum*, and which I sent for determination to Prof. Magnus, of Berlin. Mr. Magnus believed at first he had a new species before him, entirely different from the European *Exobasidium rhododendri* Cramer. However, he recognized very soon the complete identity of the fungus from the Caucasus with the North American *Exobasidium discoideum* Ellis, which grows in New Jersey on *Rhododendron viscosum*. In Europe there is at present no longer found any species of *Rhododendron* of the section *Azalea maxim.* (*Pentanthera* Don.). The Caucasian and North America *Rhododendron* are genuine, closely related *Azaleas*. Prof. Magnus then says this, in Sommer et Levier, *Enumeratio Plant. Caucas.*, p. 541: 'These host plants are relics from tertiary geological time, during which North America and Europe still constituted one common floral region. While the host plants in the two very distant areas which lay formerly within one common circle of distribution, were differentiated into two closely related species, the parasitic *Exobasidium* has maintained itself unchanged, at least in its external morphological characters. *Exobasidium discoideum* Ell. is a parasitic fungus which inhabited the parent forms of *Rhododendron viscosum* (L.) Torr. and of *R. flavum* Don. since the time when North America and Europe still formed one continuous floral region.'

"In the two cases of *Leskea* and *Exobasidium*, Europe is completely overleaped and the two widely separate localities stand without connecting area: Caucasasia-North America. (According to Reclus and many other geographers Cis-Caucasia to the south of the Manitch depression belongs to Asia and thus also the stations of *Leskea grandiretis*, but this in no wise alters the main point at issue.)

"Now we have a third case where a trace of an intermediate locality connecting the Caucasus with North America has been established by the discovery of a relic, no trace being left in all the rest of Europe. The case is that of a moss, *Mnium ciliare*. This moss grows and fruits abundantly

in western Trans-Caucasia. I gathered it in Svanetia in flower; *Brotherus* in fruit. The species is given as rare in Scandinavia and from there leaps over to northern North America, is however, absent in the Alps and in the rest of Europe. Should the Scandinavian station be destroyed, the case of *Mnium ciliare* will be exactly identical with *Leskea Austini* and *Exobasidium discoideum*." Thus Dr. Levier.

His closing words characterize fairly well the typical moss student's attitude. "Bryology has so far furnished precious little toward the evolutionary history of the world floras; specialists are so absorbed in microscopic work and 'areolation' that they find no time to look beyond."

A note by me in the *Plant World*, Oct., 1901, showing the unusual distribution of *Claytonia chamissoi*, *Coscinodon Rauli*, *C. Wrightii*, *Ditrichum flexicaule brevifolium*, *Grimmia teretinervis*, *Webera prolifera* and *Weisia Wimmeriana*: another note in the *Botanical Gazette*, Aug., 1900, establishing the occurrence in the difficultly accessible mountains of N. W. Montana of several European alpine species such as *Grimmia mollis*, *G. subsulcata*, *Hypnum fluitans brachydictyon*, *H. ochraceum uncinatum*, *Webera carinata*: the report on another moss from this Montana collection in the *BRYOLOGIST*, April, 1901, viz. *Hypnum Bestii*, which according to M. Renaud occurs in but slightly modified form in the Pyrenees (var. *Pyrenaicum* Ren.): a note in *Asa Gray Bulletin*, Oct., 1900, on the occurrence of *Polytrichum Jensenii* Hagen, in the Yellowstone National Park: and a brief note on some mosses new to Alaska in the *BRYOLOGIST*, March, 1902, p. 30—seem now to have an added interest.

Winona, Minn.

A CALL FOR ASSISTANCE.

It is my purpose to make as complete as possible the series of *Acrocarpi Boreali-Americani* which I have begun to issue the first of this year, and of which three fascicles, Nos. 1-75, are distributed. I ask for the co-operation of all moss students in the various parts of the United States. I shall offer suitable remuneration to any experienced collector, either in mosses or cash, for sets of forty to fifty good specimens of such species as are outside of my reach. And I invite correspondence for this purpose.

After the first century of this series is complete, I propose to publish a pamphlet summing up the criticisms and corrections, which I herewith cordially elicit from all recipients, and it is my intention to publish with this series of notes a full list of all recipients with their addresses, believing that this will be an aid in the study of the mosses distributed, and in establishing a uniform understanding of critical and little understood species.

May I be permitted to point out, in closing this note, that I am taking very great pains to avoid all mixtures. My task will be somewhat simplified if those collecting for me will use due caution not to mix sods in the field.

JOHN M. HOLZINGER.